

Sparrow (*Passer domesticus hostilis*¹) amongst its many other sins, has been responsible to a large extent for the generally prevailing idea that as sets increase pigment decreases (which seems to be the rule in its case for some unexplained reason), but my 'A Study of Subsequent Nestings' already referred to, goes a long way I think to demonstrate that the opposite is the more general rule in the case of other birds. What we really want is a special work dealing with the subject, such as Dr. Bergtold's 'The Incubation Periods of Birds' and Dr. Casey Wood's 'The Fundus Oculi of Birds,' wherein the subjects are fully dealt with and discussed in all their bearings.—H. MOUSLEY, *Halley, Que.*

The Destruction of Nests by Farming Operations in Saskatchewan.—During the summer of 1917 from May 1 to June 15 I worked on a 1200 acre grain farm located near a small town, Estlin, sixteen miles south of Regina, the capital of Saskatchewan. This time included the earlier nesting wave which might be said to extend through the last weeks in May and the first in June. It is then that the greatest damage is done to nesting birds through agricultural operations.

The region in which the farm was situated was one vast treeless plain. Natives at one time or another have tried to grow trees and shrubs about their dooryards but these have either died or merely grown to a height of ten or twelve feet. Of course all parts of Saskatchewan are not treeless for in Regina there are fair sized shade trees along the streets and still farther north there are forests. The land is owned in large tracts of a half section or more, the largest of which I heard covering 16 sections. It is under an extensive system of farming with oats, wheat and flax as the staple crops. Most of the land is under cultivation but there is still some in lots of a half to two sections left in virgin prairie. One would naturally expect that the wild ducks and other ground nesting birds would select the prairie for nesting sites, but such was not in accordance with my observations, as I found that the great majority chose the cultivated areas.

The ducks and the Chestnut-collared Longspurs were found to be most abundant; of the former, Pintails were in the lead, with Mallards, Teals, and Baldpates in lesser numbers. Canada Geese did not nest there at all, but I was told that they breed commonly not far to the north. Marsh Hawks and Short-eared Owls were very common, as were Red-winged Blackbirds, Killdeers, and Western Meadowlarks.

The growing season is so short that the ground must be prepared with the greatest speed in the spring, since the large crops and early winters allow little time for fall plowing, thus leaving nearly all to be done just before seeding. We were plowing, disking, harrowing, and drilling grain until the first week in June, while the first duck nest was found on May 6, making at least a full month during which the farming operations may cause the destruction of nests. As above stated the ducks seem to prefer the stubble fields to the prairie, for of the twenty-five nests which I examined all but five were in the former kind of situation; of the remaining five,

¹ See Oberholser, *Auk*, 1917, p. 329.

four were in grass between stubble fields and roads, and only one was on the prairie.

It is a common practice in Saskatchewan to burn off the stubble. This is usually accomplished in the following way: A section of a harrow is dragged about six feet behind a hay or grain rack loaded with straw; a day with a strong wind is selected as soon as the stubble is dry enough to burn freely; one man drives the team slowly along the windward side of the field while another pitches straw onto the fire which is built on the harrow and thus keeps it burning. The stubble catches fire readily and whole sections may be burned over in this manner in a few hours. The usual time for burning over the land is after the first week in May, since before then the stubble is not dry enough. Many nests are destroyed in this way. I found the remains of three duck nests and one Marsh Hawk nest in one burned field. On June 9 I flushed a Mallard from a burned field and on investigation found a much charred nest containing seven smoky eggs all of which were rotten, and yet that poor bird had been incubating those eggs for two weeks since the fire had spoiled them. The straw stacks are also burned at this time. A neighbor was engaged in this work one day, May 24, when he noticed a 'Prairie Eagle' [Ferruginous Rough-legged Hawk] rise and circle around the straw stack he was about to ignite. He climbed to the top of the stack and there found the nest containing five beautifully marked eggs, which he collected and gave to me before burning the straw. As these stacks are very common, in fact they are about the only thing that breaks the horizon, it is probable that many nests are burned with them each spring.

When the stubble is not burned, the fields are usually disked, although sometimes the wheat or oats is drilled right into the stubble without any earlier preparation of the soil. In this way the nests are disturbed by the blades of the disks and drills. Some farmers give their men strict orders to lift the drills or to drive around the nests whenever possible. If the birds happen to be on their nests it is an easy matter to locate them for they usually flush just in front of the horses. I remember twice that the horses had walked over brooding ducks which did not fly up until the disks were about to roll over them. In a case of this sort and also when the birds are not setting, it is practically impossible to see the nests in time to save them. I recollect three nests which were seen barely in time to save them. The first was a Sharp-tailed Grouse which flushed from her nest and fourteen eggs just beside the horses. By the time the horses were stopped the wheel of the drill was within a few inches of the nest and another step would have ruined it. The other two were those of a Desert Horned Lark and of a Killdeer which were similarly discovered when one more furrow by the plow would have turned them under. Occasionally ducks build their nests in sunken spots so that disk-harrows and drills may run over them without damaging the eggs. One nest was run over successively by a disk, a scrub or drag, a drill, and a team of six horses, but miraculously escaped without having even an egg cracked. This bird continued to incubate despite all the interruptions.

Marsh Hawks and Short-eared Owls are fellow sufferers with the ducks. These two birds are very necessary to that country for mice are unusually common and the hawks and owls are about the only means of keeping them in check. All four hawk nests which I found were built in stubble fields and were broken up by farming operations. Five owl nests were located; three of these were spoiled, but the other two were collected before something else could happen to them. Of the 35 duck, hawk, and owl nests which I examined I know of only five in which the eggs hatched. The one redeeming feature lies in the fact that probably the greater part of the second sets hatch and the young mature in good shape, for there are few farming operations at the time when they would be found and there are few natural enemies to interfere with them.—WALTER A. GOELITZ, *Ravinia, Illinois*.

Goudot's Explorations in Colombia.—In his recent work on 'The Distribution of Bird-Life in Colombia,' Dr. Chapman refers (p. 11) to a "French collector, resident in Bogotá," who began to send bird skins to Paris about 1838 or 1839. This collector was probably Goudot and that some of his specimens must have reached Europe at least ten years earlier will be evident upon turning to the account of *Chamaepetes goudoti* on p. 197. This species described by Lesson, in 1828, was named in honor of Justin Goudot, a French naturalist and botanical collector, a native of Jura, who secured the type in the Quindio region, in 1827, and who spent many years in Colombia collecting zoölogical and botanical specimens. As information regarding his work is not generally accessible, the following summary may be of interest.

According to La Sègue,¹ from whose brief account the following facts have been mainly derived, Goudot was an attache of the Paris Museum. Nearly a century ago, in 1822, in company with several other Frenchmen he was called to Bogotá by the government of Colombia (then known as New Grenada), to assist in founding various scientific establishments. For five years he remained in the service of the government collecting in different parts of the country. In 1823 he began work on the coast of Venezuela in the vicinity of Porto Cabello, then went to Santa Marta and ascended the Magdalena River to Bogotá. In the following year he worked eastward across the cordillera to the plains of Meta and then southward crossing the Ariari and the Guayabero, two branches of the upper Orinoco. He then returned to Bogotá and in 1825 directed his course northward along the cordillera to the valley and emerald mine of Muzo. In 1826 he collected in the mountains southwest of Bogotá, in the vicinity of the natural bridge of Icononzo or Pandi. In 1827 he resigned from the service of the government but continued his work of collecting natural history specimens. He crossed the valley of the Magdalena to the west in order to explore the rich vegetation of the Quindiu region and it was on this trip undoubtedly that he secured the type of

¹ La Sègue, A., Musée Botanique de M. Benjamin Delessert, pp. 471-472, Paris, 1845.